Shapes Exercise

1. Open the MicroStation file PW:\District CADD\Design\Cole\J5P0100\data**r2_shapes.dgn**

2. Reattach the reference files and turn on the levels containing the centerline, EOP and Shoulder.

3. Start Project Manager, locate the project file and edit the project's working directory along with the GPK location.

   PW:\District CADD\Design\Cole\J5P0100\project**J5P0100.prj** enter the project as **userc**.

4. **Copy** the working alignment Ramp2 to **R2-Shape**.

5. In the r2-shape working alignment, under the **Shapes** section, verify the Design File is **R2_Shapes.dgn**. If not make the appropriate change.

   Under the **Shapes** section, change the **color** to **7, 12**.

   Close the working alignment definition box.

6. Select the **Calculate Superelevation** button from the Project Manager dialog. Copy the MoDOT run to **R2-Shape**, and enter the run.

7. Create the **Ramp 2** shapes as follows

Job:	100
Chain:	**Ramp2**
Design Speed:	**40**
Preference File:	**i_undivided**
Facility:	**Undivided**
e Selection:	**8% max**
L Selection:	**all cases**
Profile:	**Ramp2pr**
Tie:	**Offset**
Offset:	**0**

Lanes:

	% Slope	Offset	Offset	Dependency
Left Side:	**2.0**	**0**	**-18**	**Dependent**
Right Side:	-	-	-	-

Input File: **Shape_Ramp2.inp**

8. Edit the file **Shape_Ramp2**.inp as follows.

   a) Replace the current filler lines with the following values.

   2+82.4370 6.00
   6+92.9000 6.00
   8+16.9000 0.00
   9+73.9000 -7.60
   11+99.0010 -7.60

   b) Add these lines following the first set of filler lines. (Copy the information from the previous shape information, and make the needed changes.)

```
auto shape set
shape cluster baseline = RAMP2
shape cluster profile  = RAMP2PR
shape cluster tie      =  0.00
dependent shape
chain / offset
    RAMP2  0.00
    RAMP2  -20.00
filler line station / slope
        11+99.0010      -7.60
        12+31.4200      -7.60
        14+29.4200       2.00
        16+39.3115       2.00
auto shape set
shape cluster baseline = RAMP2
shape cluster profile  = RAMP2PR
shape cluster tie      =  0.00
independent shape
chain / offset
    RAMP2  –20.00
    RAMP2  -40.00
filler line station / slope
        14+74.0880      2.00
        16+39.3115      2.00
```

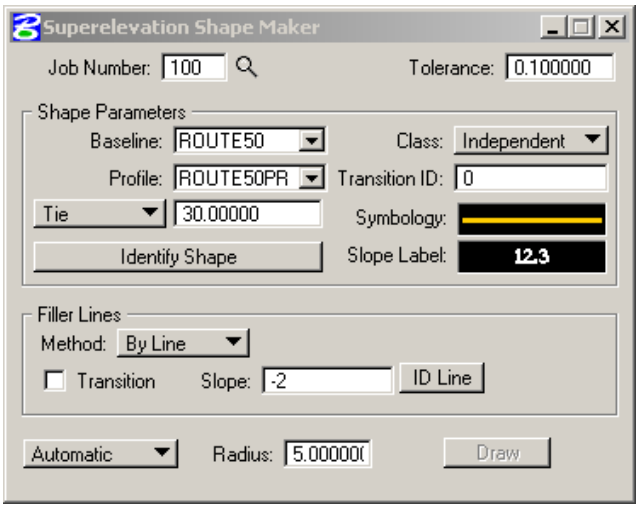
   c) Change the Dependent Shape color to **7** and the Independent Shape color to **12**.

9. Save the changes to the input file **Shape_Ramp2.inp** and process the file using the **Autoshape Builder**.

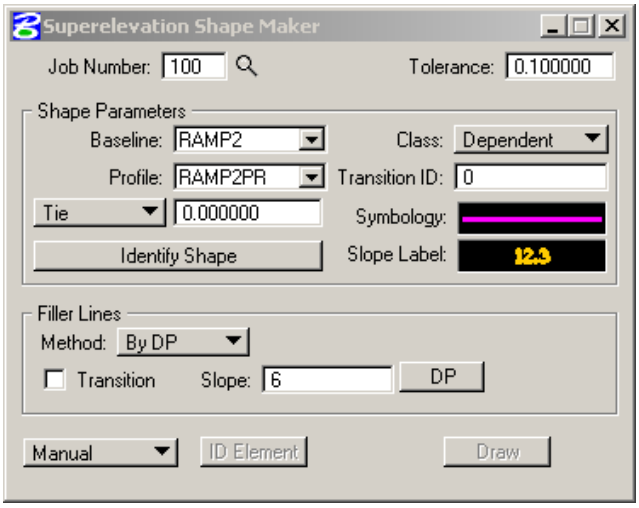
10. Create the shape boundaries for the gore area with the following steps.
    Use **DP Station and Offset** to draw the following lines.

Chain	From Station	Offset	To Station	Offset
Ramp2	**2+52.657**	**20**	**2+52.657**	**-20**
Ramp2	**2+82.437**	**20**	**2+82.437**	**-20**
Route50	**453+55.683**	**67**	**453+55.683**	**20**

11. Using Shape Maker, draw a **non-transitional** shape with the following settings for the **Rte. 50 pavement taper from the nose of Ramp 2** (Route 50 Station 452+86.044) **to the end of the taper** (Route 50 Station 455+06.044) **between Route50 and Ramp2**. (The show option can be used to match the Route50 independent shape.) Use a **–2% slope**.

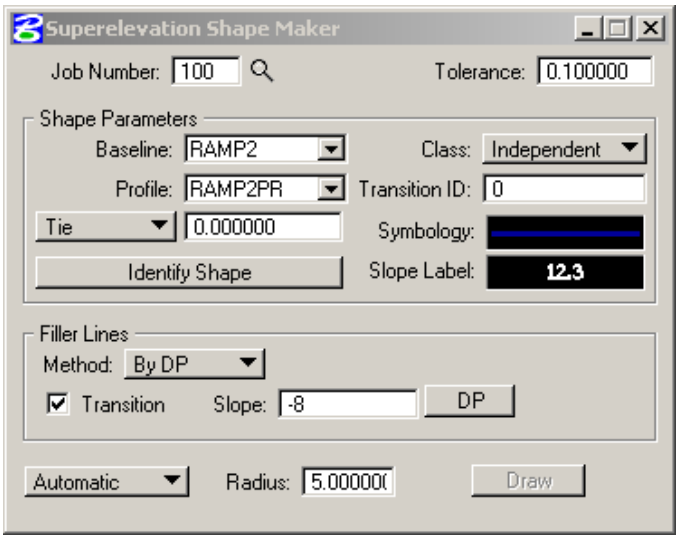


12. Using Shape Maker, draw a non-transitional shape with the following settings in the **ramp widening area from the nose of the ramp to the end of the widening**. (The show option can be used to match the Ramp2 dependent shape.) Use a **6.0% slope**.



13. **Save** the changes to the MicroStation file. In MicroStation, window in on the area at the **end of Ramp 2, where it is running parallel to Ramp 4**.

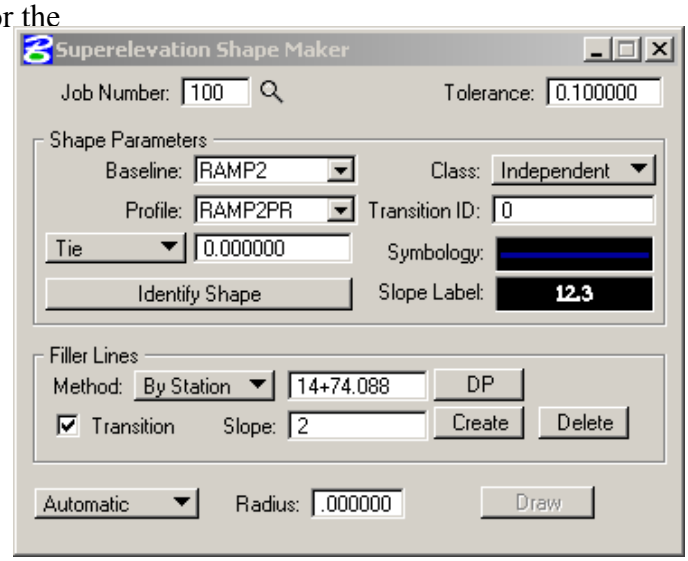
Using Shape Maker, draw a transitional shape with the settings shown to the right in the area starting at the Station 12+83.75 on Ramp2 and the existing Ramp2 shape. (The show option can be used to match independent shape for Ramp2.) A **–7.25%** slope is needed at Sta. 12+83.75 and a 2% slope is needed at the edge of the already plotted shape for Ramp 2. The dialogs show the DP and Station options for placing the filler lines.



For the DP option, set up the dialog as above, click on the **Create** button, DP (left click) at the locations shown in the figure to the right.

As shown below, change the slope to **2%**, switch the method to **By Station**, enter **14+74.088** in the Station field, and click on the **Create** button. (Note: Station 14+74.088 is the value used for the first filler line for the the independent shape in the input file shape_r2-shapes.inp.)

Once the second filler line is created, click on the **Draw** button and **data point** inside the area for the intended shape.



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